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What is Disinfection?

Disinfection is the process by which chlorine, a disinfectant, usually is added to a water system in large amounts to kill bacteria

When Does a Water System Need Disinfection?

and to burn up organic materials which serve as food for bacteria.

- After construction of a new water supply or pipeline (i.e. well)
- After making repairs to an existing water supply
- After a water system has been unused for several months
- After surface flooding of a well or storage tank
- When the results of a bacteriological test

indicate contamination

• Before a water supply (i.e. well) is used

Is Your Water Safe To Drink



Placer County Health & Human Services DIVISION OF ENVIRONMENTAL HEALTH 3091 County Center Dr. 565 W. Lake Blvd. Auburn, CA 95603 Tahoe City, CA 95730 530-745-2300 530-581-6240

How Is a Water System Disinfected?

- 1. Pump the well or water system thoroughly until the water is clear and free of turbidity, being sure to flush out all distribution piping.
- 2. Pour unscented household bleach (Chlorox, Purex, etc. 5-1/4% solution) directly into the well. Do not use stabilized swimming pool chlorine or "Burn Out" as they are unsuitable for use in drinking water. The disinfectant (chlorine) can be added directly into the well casing through the casing vent or other casing access. (Do not introduce chlorine into the pump column, drop pipe, or electrical conduits.) Use a gallon of household bleach for every 500 gallons of water in the system. For example, you would need about ½ gallon of household bleach to disinfect a well that is 200 feet deep with a static water level of 30 feet.
- 3. With wells, chlorinated water can be circulated by pumping it from the well and discharging it back into the well through a hose. This serves to clean parts of the well above the water line, as well as to aid in mixing.
- 4. Pump the chlorinated water throughout the entire system. Do this by opening each tap until you can smell the chlorine coming through, shut off the tap and go on to the next one. Leaving a line undisinfected can recontaminate a system, so be sure to flush all toilets and open every tap, including hot water and irrigation taps.
- 5. Allow the chlorinated water to stand in the entire system for as long as possible. Overnight is adequate, but twenty-four hours is better. This gives the chlorine a chance to work on any contamination that may be in the system.

- 6. Flush out the system until all the chlorine is gone. This can take several hours and it can be difficult to determine if all the chlorine has been removed. The best results are obtained with a chlorine test kit (like a swimming pool test kit). If you have a septic system, it would be advisable to discharge the water from an outside water faucet. In addition, discharge water should be disposed of in areas where no harm will occur to animals, fish or vegetation.
- 7. Once the chlorine has been removed and it has been at least 96 hours since accomplishing the above procedures, then the water supply should be retested for bacteriological quality. Only a laboratory analysis can determine if the water is free from contamination. It is also recommended that you do not drink the water or use it for culinary purposes during the disinfection process.

Chlorine
Compound
Required to Dose
100 Feet
(30 Meters)
of Water-Filled
Casing at
50 Milligrams
per Litre*

- 8. If the contamination is not corrected, repeat the above procedure. Please be advised that wells must be constructed so as to protect the groundwater from any surface contamination. To disinfect a well or water storage tank that is not protected from surface contamination is wasted effort.
- 9. In those instances not resolved by protection of the water source and repeated disinfection efforts, you may have to drill a new well or connect to an approved public water supply.

If you have any questions, please contact the Auburn or Tahoe office at the numbers located at the front of this brochure. If you wish to have your water supply analyzed for bacteriological quality, please contact the Placer County Health Laboratory at (530)-889-7205. There is a fee for this service.

| Chlorine Compounds | | | | |
|--------------------|----------|--------------------|-----------------|--------------------|
| Di | Diameter | | (25%) Chloride | (5.25%) Sodium |
| of Casing | | Hypochlorite* | of Lime | Hypochlorite**** |
| In. | (mm) | (Dry Weight)** | (Dry Weight)*** | (Liquid Measure) |
| 2 | (50) | 1/4 oz. (7 g) | 1/2 oz. (14 g) | 2 oz. (59 ml) |
| 4 | (100) | 1 oz. (28 g) | 2 oz. (57 g) | 9 oz. (266 ml) |
| 6 | (150) | 2 oz. (57 g) | 4 oz. (113 g) | 20 oz. (0.6 l) |
| 8 | (200) | 3 oz. (85 g) | 7 oz. (0.2 kg) | 2-1/8 pts. (1.0 l) |
| 10 | (250) | 4 oz. (113 g) | 11 oz. (0.3 kg) | 3-1/2 pts. (1.7 l) |
| 12 | (300) | 6 oz. (0.2 kg) | 1 lb. (0.45 kg) | 5 pts. (2.4 l) |
| 16 | (400) | 10 oz. (0.3 kg) | 2 lb. (0.9 kg) | 1 gal. (3.8 l) |
| 20 | (510) | 1 lb. (0.45 kg) | 3 lb. (1.4 kg) | 1-2/3 gal. (6.3 l) |
| 24 | (610) | 1-1/2 lb. (0.7 kg) | 4 lb. (1.8. kg) | 2-1/3 gal. (8.8 l) |

^{*} Some authorities recommend a minimum concentration of 100 mg/l. To obtain this concentration, double the amounts shown.

^{**} HTH, Perchloron, Pittchlor. Etc.

^{***} Where dry chlorine is used, it should be mixed with water to form a chlorine solution prior to placing it into the well. Note: dry chlorine should always be added to water, not vice versa.

^{****} Household bleaches such as Chlorox, Purex, etc.